LIST OF CONTENTS

NUMBER 1

O. Byrde and **M. L. Sawley**	1	Parallel computation and analysis of the flow in a static mixer
T. W. H. Sheu, S. F. Tsai, W. S. Hwang and **T. M. Chang**	19	A finite element study of the blood flow in total cavopulmonary connection
T. P. Chiang, W. H. Sheu and **S. F. Tsai**	41	Disk-driven vortical flow structure in a cubical container
H. Guillard and **C. Viozat**	63	On the behaviour of upwind schemes in the low Mach number limit
J. Rokicki and **J. M. Floryan**	87	Higher-order unstructured domain decomposition method for Navier–Stokes equations
H. Christoph and **K. G. Roesner**	121	Numerical investigation of 3D shock focusing effects on the basis of the Euler equation

NUMBER 2

M. Napolitano, G. Pascazio and **L. Quartapelle**	139	A review of vorticity conditions in the numerical solution of the $-\psi$ equations
J. R. Amaladas and **H. Kamath**	187	Implicit and multigrid procedures for steady-state computations with upwind algorithms
I. Faille and **E. Heintzé**	213	A rough finite volume scheme for modeling two-phase flow in a pipeline
I. M. G. Grotowsky and **J. Ballmann**	243	Efficient time integration of Navier–Stokes equations

NUMBER 3

A. Kumar	265	Role of flow-consistent grid in CFD
G. G. Chernykh and **O. F. Voropayeva**	281	Numerical modeling of momentumless turbulent wake dynamics in a linearly stratified medium
P. E. Morgan, S. G. Rubin and **P. K. Khosla**	307	Application of the reduced Navier–Stokes methodology to flow stability of Falkner–Skan class flows
H. Karema and **S. Lo**	323	Efficiency of interphase coupling algorithms in fluidized bed conditions
A. S. Sabau and **P. E. Raad**	361	Comparisons of compact and classical finite difference solutions of stiff problems on nonuniform grids

NUMBERS 4 & 5

Special Issue

Dedicated to Jerry South
on the Occasion of his Retirement

Guest Editors:
M. Hafez
J. Thomas

M. Hafez and **J. Thomas**	385	Preface
M. Hafez and **J. Thomas**	387	Foreword
A. Verhoff	389	Complementing computational fluid dynamics methods with classical analytical techniques
T. W. Roberts, R. C. Swanson and **D. Sidilkover**	427	An algorithm for ideal multigrid convergence for the steady Euler equations
W. K. Anderson and **V. Venkatakrishnan**	443	Aerodynamic design optimization on unstructured grids with a continuous adjoint formulation
S. Abarbanel and **A. Ditkowski**	481	Multi-dimensional asymptotically stable finite difference schemes for the advection–diffusion equation
A. Brandt and **B. Diskin**	511	Multigrid solvers for the non-aligned sonic flow: the constant coefficient case
D. Sidilkover	551	Some approaches towards constructing optimally efficient multigrid solvers for the inviscid flow equations
Z. Haras and **S. Ta'asan**	573	The large discretization step method for time-dependent partial differential equations
V. N. Vatsa and **B. W. Wedan**	603	Parallelization of a multiblock flow code: an engineering implementation
J. C. Newman III, P. A. Newman, A. C. Taylor III and **G. J.-W. Hou**	615	Efficient nonlinear static aeroelastic wing analysis
J. A. Garriz, P. A. Newman, V. N. Vatsa and **K. J. Haigler**	629	Observations on three-dimensional nonlinear transonic wall-interference assessment and correction using semispan wing data
A. Iollo and **M. D. Salas**	653	Optimum transonic airfoils based on the Euler equations
J. Reuther, J. J. Alonso, M. J. Rimlinger and **A. Jameson**	675	Aerodynamic shape optimization of supersonic aircraft configurations via an adjoint formulation on distributed memory parallel computers
M. M. Hafez and **W. H. Guo**	701	Some anomalies of numerical simulation of shock waves. Part I: inviscid flows

M. M. Hafez and **W. H. Guo** 721 Some anomalies of numerical simulation of shock waves. Part II: effect of artificial and real viscosity

NUMBER 6

W. J. Rider 741 An adaptive Riemann solver using a two-shock approximation

H.-C. Kuo, T.-M. Leou and **R. T. Williams** 779 A study on the high-order Smolarkiewicz methods

Technical notes

G. Mateescu, C. J. Ribbens, L. T. Watson and **C-Y. Wang** 801 Effect of a sawtooth boundary on Couette flow

K-J. Oh and **S-H. Kang** 815 A numerical investigation of the dual performance characteristics of a small propeller fan using viscous flow calculations

NUMBER 7

K. Matsuno 825 High-order upwind method for hyperbolic grid generation

E. Arian and **S. Ta'asan** 853 Analysis of the Hessian for aerodynamic optimization: inviscid flow

M. Rosenfeld and **Y. Yassour** 879 A spatially-factored fully implicit solution method for block structured meshes with irregular nodes

I Announcements

NUMBER 8

G. Barakos and **D. Drikakis** 899 An implicit unfactored method for unsteady turbulent compressible flows with moving boundaries

R. M. Ardito Marretta, G. Davi, G. Lombardi and **A. Milazzo** 923 Hybrid numerical technique for evaluating wing aerodynamic loading with propeller interference

P. Jenny and **B. Müller** 951 Convergence acceleration for computing steady-state compressible flow at low Mach numbers